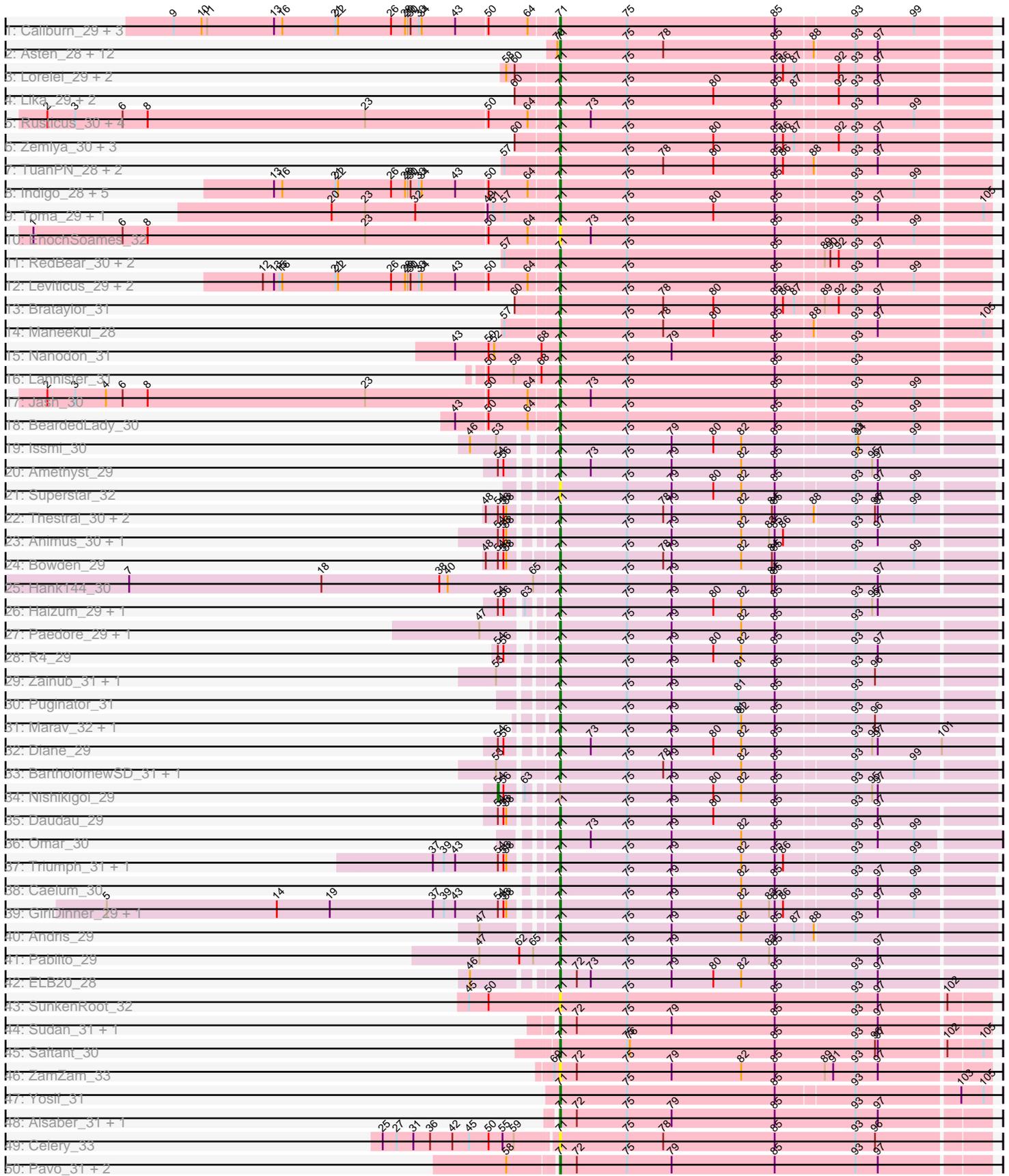Pham 287726

Pham 287726

Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 287726 Report

This analysis was run 03/28/26 on database version 641.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 287726 has 117 members, 10 are drafts.

Phages represented in each track:
• Track 1 : Caliburn_29, Legacy_29, Hydra_31, Ozzie_29
• Track 2 : Asten_28, Snorlax_28, Hippo_28, Werner_28, SarahRose_28, Dwayne_28, Chucky_28, TagePhighter_29, OzzyJ_29, BarryBee_30, Whatever_28, Triste_28, Emaanora_30
• Track 3 : Lorelei_29, Rana_29, Nabi_29
• Track 4 : Lika_29, Sujidade_30, Godpower_30
• Track 5 : Rusticus_30, Izzy_30, BryanRecycles_30, Eddasa_30, Oliynyk_30
• Track 6 : Zemlya_30, Celeste_29, Danzina_30, Dattran_30
• Track 7 : TuanPN_28, Yasdnil_28, Ejemplo_28
• Track 8 : Indigo_28, Nerdos_29, SunsetPointe_29, Unstoppable_29, Esperer_29, Bovely_29
• Track 9 : Toma_29, Goby_29
• Track 10 : EnochSoames_32
• Track 11 : RedBear_30, South40_29, Katalie_29
• Track 12 : Leviticus_29, Aaronocolus_29, Phettuccine_29
• Track 13 : Brataylor_31
• Track 14 : Maneekul_28
• Track 15 : Nanodon_31
• Track 16 : Lannister_31
• Track 17 : Jash_30
• Track 18 : BeardedLady_30
• Track 19 : Issmi_30
• Track 20 : Amethyst_29
• Track 21 : Superstar_32
• Track 22 : Thestral_30, TrvxScott_28, TinaBelcher_29
• Track 23 : Animus_30, SqueakyClean_30
• Track 24 : Bowden_29
• Track 25 : Hank144_30
• Track 26 : Haizum_29, Tefunt_29
• Track 27 : Paedore_29, Loofah_30
• Track 28 : R4_29
• Track 29 : Zainub_31, Paolo_31
• Track 30 : Puginator_31

- Track 31 : Marav_32, Jevington_31
- Track 32 : Diane_29
- Track 33 : BartholomewSD_31, Alvy_31
- Track 34 : Nishikigoi_29
- Track 35 : Daudau_29
- Track 36 : Omar_30
- Track 37 : Triumph_31, Axiom_30
- Track 38 : Caelum_30
- Track 39 : GirlDinner_29, Janus_30
- Track 40 : Andris_29
- Track 41 : Pablito_29
- Track 42 : ELB20_28
- Track 43 : SunkenRoot_32
- Track 44 : Sudan_31, Kaine_30
- Track 45 : Saftant_30
- Track 46 : ZamZam_33
- Track 47 : Yosif_31
- Track 48 : Alsaber_31, Dexers_29
- Track 49 : Celery_33
- Track 50 : Pavo_31, Provolone_31, Conan_31
- Track 51 : phiCAM_30
- Track 52 : Jhitchelle_31
- Track 53 : ElGato_31
- Track 54 : Speedwell_35
- Track 55 : Amela_30, Verse_30
- Track 56 : Verabelle_32
- Track 57 : Vanseggelen_35
- Track 58 : BroPlease_30, GreenWeasel_31
- Track 59 : phiHau3_31
- Track 60 : Celia_31, Urza_31, Itza_31
- Track 61 : VieEnRose_31

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 71, it was called in 106 of the 107 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Aaronocolus_29, Alsaber_31, Alvy_31, Amela_30, Amethyst_29, Andris_29, Animus_30, Asten_28, Axiom_30, BarryBee_30, BartholomewSD_31, BeardedLady_30, Bovely_29, Bowden_29, Brataylor_31, BroPlease_30, BryanRecycles_30, Caelum_30, Caliburn_29, Celery_33, Celeste_29, Celia_31, Chucky_28, Conan_31, Danzina_30, Dattran_30, Daudau_29, Dexers_29, Diane_29, Dwayne_28, ELB20_28, Eddasa_30, Ejemplo_28, ElGato_31, Emaanora_30, EnochSoames_32, Esperer_29, GirlDinner_29, Goby_29, Godpower_30, GreenWeasel_31, Haizum_29, Hank144_30, Hippo_28, Hydra_31, Indigo_28, Issmi_30, Itza_31, Izzy_30, Janus_30, Jash_30, Jevington_31, Kaine_30, Katalie_29, Lannister_31, Legacy_29, Leviticus_29, Lika_29, Loofah_30, Lorelei_29, Maneekul_28, Marav_32, Nabi_29, Nanodon_31, Nerdos_29, Oliynyk_30, Omar_30, Ozzie_29, OzzyJ_29, Pablito_29, Paedore_29, Paolo_31, Pavo_31, Phettuccine_29,

Provolone_31, Puginator_31, R4_29, Rana_29, RedBear_30, Rusticus_30, Saftant_30, SarahRose_28, Snorlax_28, South40_29, Speedwell_35, SqueakyClean_30, Sudan_31, Sujidade_30, SunkenRoot_32, SunsetPointe_29, Superstar_32, TagePhighter_29, Tefunt_29, Thestral_30, TinaBelcher_29, Toma_29, Triste_28, Triumph_31, TrvxScott_28, TuanPN_28, Unstoppable_29, Urza_31, Vanseggelen_35, Verabelle_32, Verse_30, VieEnRose_31, Werner_28, Whatever_28, Yasdnil_28, Yosif_31, Zainub_31, ZamZam_33, Zemlya_30, phiCAM_30, phiHau3_31,

Genes that have the "Most Annotated" start but do not call it:
• Jhitchelle_31, Nishikigoi_29,

Genes that do not have the "Most Annotated" start:
•

Summary by start number:

Start 54:
• Found in 17 of 117 (14.5%) of genes in pham
• Manual Annotations of this start: 1 of 107
• Called 5.9% of time when present
• Phage (with cluster) where this start called: Nishikigoi_29 (BD2),

Start 67:
• Found in 1 of 117 (0.9%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jhitchelle_31 (BD3),

Start 71:
• Found in 117 of 117 (100.0%) of genes in pham
• Manual Annotations of this start: 106 of 107
• Called 98.3% of time when present
• Phage (with cluster) where this start called: Aaronocolus_29 (BD1), Alsaber_31 (BD3), Alvy_31 (BD2), Amela_30 (BD3), Amethyst_29 (BD2), Andris_29 (BD2), Animus_30 (BD2), Asten_28 (BD1), Axiom_30 (BD2), BarryBee_30 (BD1), BartholomewSD_31 (BD2), BeardedLady_30 (BD1), Bovely_29 (BD1), Bowden_29 (BD2), Brataylor_31 (BD1), BroPlease_30 (BD4), BryanRecycles_30 (BD1), Caelum_30 (BD2), Caliburn_29 (BD1), Celery_33 (BD3), Celeste_29 (BD1), Celia_31 (BD6), Chucky_28 (BD1), Conan_31 (BD3), Danzina_30 (BD1), Dattran_30 (BD1), Daudau_29 (BD2), Dexers_29 (BD3), Diane_29 (BD2), Dwayne_28 (BD1), ELB20_28 (BD2), Eddasa_30 (BD1), Ejemplo_28 (BD1), ElGato_31 (BD3), Emaanora_30 (BD1), EnochSoames_32 (BD1), Esperer_29 (BD1), GirlDinner_29 (BD2), Goby_29 (BD1), Godpower_30 (BD1), GreenWeasel_31 (BD4), Haizum_29 (BD2), Hank144_30 (BD2), Hippo_28 (BD1), Hydra_31 (BD1), Indigo_28 (BD1), Issmi_30 (BD2), Itza_31 (BD6), Izzy_30 (BD1), Janus_30 (BD2), Jash_30 (BD1), Jevington_31 (BD2), Kaine_30 (BD3), Katalie_29 (BD1), Lannister_31 (BD1), Legacy_29 (BD1), Leviticus_29 (BD1), Lika_29 (BD1), Loofah_30 (BD2), Lorelei_29 (BD1), Maneekul_28 (BD1), Marav_32 (BD2), Nabi_29 (BD1), Nanodon_31 (BD1), Nerdos_29 (BD1), Oliynyk_30 (BD1), Omar_30 (BD2), Ozzie_29 (BD1), OzzyJ_29 (BD1), Pablito_29 (BD2), Paedore_29 (BD2), Paolo_31 (BD2), Pavo_31 (BD3), Phettuccine_29 (BD1), Provolone_31 (BD3), Puginator_31 (BD2), R4_29 (BD2), Rana_29 (BD1), RedBear_30 (BD1), Rusticus_30 (BD1), Saftant_30 (BD3),

SarahRose_28 (BD1), Snorlax_28 (BD1), South40_29 (BD1), Speedwell_35 (BD3), SqueakyClean_30 (BD2), Sudan_31 (BD3), Sujidade_30 (BD1), SunkenRoot_32 (BD3), SunsetPointe_29 (BD1), Superstar_32 (BD2), TagePhighter_29 (BD1), Tefunt_29 (BD2), Thestral_30 (BD2), TinaBelcher_29 (BD2), Toma_29 (BD1), Triste_28 (BD1), Triumph_31 (BD2), TrvxScott_28 (BD2), TuanPN_28 (BD1), Unstoppable_29 (BD1), Urza_31 (BD6), Vanseggelen_35 (BD3), Verabelle_32 (BD3), Verse_30 (BD3), VieEnRose_31 (BD6), Werner_28 (BD1), Whatever_28 (BD1), Yasdnil_28 (BD1), Yosif_31 (BD3), Zainub_31 (BD2), ZamZam_33 (BD3), Zemlya_30 (BD1), phiCAM_30 (BD3), phiHau3_31 (BD4),

Summary by clusters:

There are 5 clusters represented in this pham: BD4, BD6, BD1, BD3, BD2,

Info for manual annotations of cluster BD1:
•Start number 71 was manually annotated 55 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 54 was manually annotated 1 time for cluster BD2.
•Start number 71 was manually annotated 32 times for cluster BD2.

Info for manual annotations of cluster BD3:
•Start number 71 was manually annotated 12 times for cluster BD3.

Info for manual annotations of cluster BD4:
•Start number 71 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:
•Start number 71 was manually annotated 4 times for cluster BD6.

Gene Information:
Gene: Aaronocolus_29 Start: 22593, Stop: 23045, Start Num: 71
Candidate Starts for Aaronocolus_29:
(12, 22284), (13, 22296), (15, 22302), (16, 22305), (21, 22362), (22, 22365), (26, 22422), (28, 22437), (29, 22440), (30, 22443), (33, 22452), (34, 22455), (43, 22491), (50, 22524), (64, 22566), (Start: 71 @22593 has 106 MA's), (75, 22665), (85, 22824), (93, 22905), (99, 22968),

Gene: Alsaber_31 Start: 24299, Stop: 24754, Start Num: 71
Candidate Starts for Alsaber_31:
(Start: 71 @24299 has 106 MA's), (72, 24317), (75, 24371), (79, 24419), (85, 24530), (93, 24617), (97, 24641),

Gene: Alvy_31 Start: 23614, Stop: 24072, Start Num: 71
Candidate Starts for Alvy_31:
(53, 23557), (Start: 71 @23614 has 106 MA's), (75, 23686), (78, 23725), (79, 23734), (82, 23809), (85, 23845), (93, 23926), (99, 23989),

Gene: Amela_30 Start: 25135, Stop: 25590, Start Num: 71
Candidate Starts for Amela_30:

(45, 25042), (50, 25063), (Start: 71 @25135 has 106 MA's), (75, 25207), (85, 25366), (93, 25453), (97, 25477),

Gene: Amethyst_29 Start: 23241, Stop: 23708, Start Num: 71
Candidate Starts for Amethyst_29:
(Start: 54 @23196 has 1 MA's), (56, 23202), (Start: 71 @23241 has 106 MA's), (73, 23274), (75, 23313), (79, 23361), (82, 23436), (85, 23472), (93, 23556), (95, 23574), (97, 23580),

Gene: Andris_29 Start: 23238, Stop: 23696, Start Num: 71
Candidate Starts for Andris_29:
(47, 23172), (Start: 71 @23238 has 106 MA's), (75, 23310), (79, 23358), (82, 23433), (85, 23469), (87, 23490), (88, 23508), (93, 23550),

Gene: Animus_30 Start: 23553, Stop: 24011, Start Num: 71
Candidate Starts for Animus_30:
(Start: 54 @23508 has 1 MA's), (56, 23514), (58, 23517), (Start: 71 @23553 has 106 MA's), (75, 23625), (79, 23673), (82, 23748), (83, 23778), (85, 23784), (86, 23793), (93, 23865), (97, 23889),

Gene: Asten_28 Start: 22871, Stop: 23323, Start Num: 71
Candidate Starts for Asten_28:
(70, 22868), (Start: 71 @22871 has 106 MA's), (75, 22943), (78, 22982), (85, 23102), (88, 23141), (93, 23183), (97, 23207),

Gene: Axiom_30 Start: 23436, Stop: 23894, Start Num: 71
Candidate Starts for Axiom_30:
(37, 23322), (39, 23334), (43, 23346), (Start: 54 @23391 has 1 MA's), (56, 23397), (58, 23400), (Start: 71 @23436 has 106 MA's), (75, 23508), (79, 23556), (82, 23631), (85, 23667), (86, 23676), (93, 23748), (99, 23811),

Gene: BarryBee_30 Start: 22881, Stop: 23333, Start Num: 71
Candidate Starts for BarryBee_30:
(70, 22878), (Start: 71 @22881 has 106 MA's), (75, 22953), (78, 22992), (85, 23112), (88, 23151), (93, 23193), (97, 23217),

Gene: BartholomewSD_31 Start: 23614, Stop: 24072, Start Num: 71
Candidate Starts for BartholomewSD_31:
(53, 23557), (Start: 71 @23614 has 106 MA's), (75, 23686), (78, 23725), (79, 23734), (82, 23809), (85, 23845), (93, 23926), (99, 23989),

Gene: BeardedLady_30 Start: 22846, Stop: 23298, Start Num: 71
Candidate Starts for BeardedLady_30:
(43, 22744), (50, 22777), (64, 22819), (Start: 71 @22846 has 106 MA's), (75, 22918), (85, 23077), (93, 23158), (99, 23221),

Gene: Bovely_29 Start: 22599, Stop: 23051, Start Num: 71
Candidate Starts for Bovely_29:
(13, 22302), (16, 22311), (21, 22368), (22, 22371), (26, 22428), (28, 22443), (29, 22446), (30, 22449), (33, 22458), (34, 22461), (43, 22497), (50, 22530), (64, 22572), (Start: 71 @22599 has 106 MA's), (75, 22671), (85, 22830), (93, 22911), (99, 22974),

Gene: Bowden_29 Start: 23529, Stop: 23987, Start Num: 71
Candidate Starts for Bowden_29:

(48, 23466), (Start: 54 @23478 has 1 MA's), (56, 23484), (58, 23487), (Start: 71 @23529 has 106 MA's), (75, 23601), (78, 23640), (79, 23649), (82, 23724), (84, 23757), (85, 23760), (93, 23841), (99, 23904),

Gene: Brataylor_31 Start: 23858, Stop: 24310, Start Num: 71
Candidate Starts for Brataylor_31:
(60, 23816), (Start: 71 @23858 has 106 MA's), (75, 23930), (78, 23969), (80, 24023), (85, 24089), (86, 24098), (87, 24110), (89, 24137), (92, 24152), (93, 24170), (97, 24194),

Gene: BroPlease_30 Start: 23238, Stop: 23699, Start Num: 71
Candidate Starts for BroPlease_30:
(Start: 71 @23238 has 106 MA's), (75, 23310), (77, 23346), (82, 23433), (84, 23466), (85, 23469), (93, 23550), (96, 23571), (98, 23595), (99, 23613), (104, 23661),

Gene: BryanRecycles_30 Start: 22949, Stop: 23401, Start Num: 71
Candidate Starts for BryanRecycles_30:
(2, 22409), (3, 22439), (6, 22490), (8, 22517), (23, 22751), (50, 22880), (64, 22922), (Start: 71 @22949 has 106 MA's), (73, 22982), (75, 23021), (85, 23180), (93, 23261), (99, 23324),

Gene: Caelum_30 Start: 23203, Stop: 23658, Start Num: 71
Candidate Starts for Caelum_30:
(Start: 71 @23203 has 106 MA's), (75, 23275), (79, 23323), (82, 23398), (85, 23434), (93, 23515), (97, 23539), (99, 23578),

Gene: Caliburn_29 Start: 22576, Stop: 23028, Start Num: 71
Candidate Starts for Caliburn_29:
(9, 22171), (10, 22201), (11, 22207), (13, 22279), (16, 22288), (21, 22345), (22, 22348), (26, 22405), (28, 22420), (29, 22423), (30, 22426), (33, 22435), (34, 22438), (43, 22474), (50, 22507), (64, 22549), (Start: 71 @22576 has 106 MA's), (75, 22648), (85, 22807), (93, 22888), (99, 22951),

Gene: Celery_33 Start: 24246, Stop: 24701, Start Num: 71
Candidate Starts for Celery_33:
(25, 24063), (27, 24078), (31, 24096), (36, 24114), (42, 24138), (45, 24156), (50, 24177), (55, 24192), (59, 24204), (Start: 71 @24246 has 106 MA's), (75, 24318), (78, 24357), (85, 24477), (93, 24564), (96, 24585),

Gene: Celeste_29 Start: 23305, Stop: 23757, Start Num: 71
Candidate Starts for Celeste_29:
(60, 23263), (Start: 71 @23305 has 106 MA's), (75, 23377), (80, 23470), (85, 23536), (86, 23545), (87, 23557), (92, 23599), (93, 23617), (97, 23641),

Gene: Celia_31 Start: 23664, Stop: 24116, Start Num: 71
Candidate Starts for Celia_31:
(Start: 71 @23664 has 106 MA's), (73, 23697), (75, 23736), (77, 23772), (79, 23784), (82, 23859), (85, 23895), (93, 23976), (97, 24000),

Gene: Chucky_28 Start: 22885, Stop: 23337, Start Num: 71
Candidate Starts for Chucky_28:
(70, 22882), (Start: 71 @22885 has 106 MA's), (75, 22957), (78, 22996), (85, 23116), (88, 23155), (93, 23197), (97, 23221),

Gene: Conan_31 Start: 24199, Stop: 24654, Start Num: 71
Candidate Starts for Conan_31:

(58, 24151), (Start: 71 @24199 has 106 MA's), (72, 24217), (75, 24271), (79, 24319), (85, 24430), (93, 24517), (97, 24541),

Gene: Danzina_30 Start: 23606, Stop: 24058, Start Num: 71
Candidate Starts for Danzina_30:
(60, 23564), (Start: 71 @23606 has 106 MA's), (75, 23678), (80, 23771), (85, 23837), (86, 23846), (87, 23858), (92, 23900), (93, 23918), (97, 23942),

Gene: Dattran_30 Start: 23412, Stop: 23864, Start Num: 71
Candidate Starts for Dattran_30:
(60, 23370), (Start: 71 @23412 has 106 MA's), (75, 23484), (80, 23577), (85, 23643), (86, 23652), (87, 23664), (92, 23706), (93, 23724), (97, 23748),

Gene: Daudau_29 Start: 23269, Stop: 23727, Start Num: 71
Candidate Starts for Daudau_29:
(Start: 54 @23221 has 1 MA's), (56, 23227), (58, 23230), (Start: 71 @23269 has 106 MA's), (75, 23341), (79, 23389), (80, 23434), (85, 23500), (93, 23581), (97, 23605),

Gene: Dexers_29 Start: 24220, Stop: 24675, Start Num: 71
Candidate Starts for Dexers_29:
(Start: 71 @24220 has 106 MA's), (72, 24238), (75, 24292), (79, 24340), (85, 24451), (93, 24538), (97, 24562),

Gene: Diane_29 Start: 23581, Stop: 24045, Start Num: 71
Candidate Starts for Diane_29:
(Start: 54 @23536 has 1 MA's), (56, 23542), (Start: 71 @23581 has 106 MA's), (73, 23614), (75, 23653), (79, 23701), (80, 23746), (82, 23776), (85, 23812), (93, 23896), (95, 23914), (97, 23920), (101, 23989),

Gene: Dwayne_28 Start: 22872, Stop: 23324, Start Num: 71
Candidate Starts for Dwayne_28:
(70, 22869), (Start: 71 @22872 has 106 MA's), (75, 22944), (78, 22983), (85, 23103), (88, 23142), (93, 23184), (97, 23208),

Gene: ELB20_28 Start: 23634, Stop: 24092, Start Num: 71
Candidate Starts for ELB20_28:
(46, 23559), (Start: 71 @23634 has 106 MA's), (72, 23652), (73, 23667), (75, 23706), (79, 23754), (80, 23799), (82, 23829), (85, 23865), (93, 23946), (97, 23970),

Gene: Eddasa_30 Start: 22949, Stop: 23401, Start Num: 71
Candidate Starts for Eddasa_30:
(2, 22409), (3, 22439), (6, 22490), (8, 22517), (23, 22751), (50, 22880), (64, 22922), (Start: 71 @22949 has 106 MA's), (73, 22982), (75, 23021), (85, 23180), (93, 23261), (99, 23324),

Gene: Ejemplo_28 Start: 22901, Stop: 23353, Start Num: 71
Candidate Starts for Ejemplo_28:
(57, 22847), (Start: 71 @22901 has 106 MA's), (75, 22973), (78, 23012), (80, 23066), (85, 23132), (86, 23141), (88, 23171), (93, 23213), (97, 23237),

Gene: ElGato_31 Start: 23859, Stop: 24314, Start Num: 71
Candidate Starts for ElGato_31:
(35, 23727), (58, 23811), (66, 23841), (Start: 71 @23859 has 106 MA's), (72, 23877), (75, 23931), (79, 23979), (85, 24090), (93, 24177), (97, 24201),

Gene: Emaanora_30 Start: 22830, Stop: 23282, Start Num: 71
Candidate Starts for Emaanora_30:
(70, 22827), (Start: 71 @22830 has 106 MA's), (75, 22902), (78, 22941), (85, 23061), (88, 23100), (93, 23142), (97, 23166),

Gene: EnochSoames_32 Start: 22944, Stop: 23396, Start Num: 71
Candidate Starts for EnochSoames_32:
(1, 22389), (6, 22485), (8, 22512), (23, 22746), (50, 22875), (64, 22917), (Start: 71 @22944 has 106 MA's), (73, 22977), (75, 23016), (85, 23175), (93, 23256), (99, 23319),

Gene: Esperer_29 Start: 22412, Stop: 22864, Start Num: 71
Candidate Starts for Esperer_29:
(13, 22115), (16, 22124), (21, 22181), (22, 22184), (26, 22241), (28, 22256), (29, 22259), (30, 22262), (33, 22271), (34, 22274), (43, 22310), (50, 22343), (64, 22385), (Start: 71 @22412 has 106 MA's), (75, 22484), (85, 22643), (93, 22724), (99, 22787),

Gene: GirlDinner_29 Start: 23214, Stop: 23672, Start Num: 71
Candidate Starts for GirlDinner_29:
(5, 22749), (14, 22932), (19, 22989), (37, 23100), (39, 23112), (43, 23124), (Start: 54 @23169 has 1 MA's), (56, 23175), (58, 23178), (Start: 71 @23214 has 106 MA's), (75, 23286), (79, 23334), (82, 23409), (83, 23439), (85, 23445), (86, 23454), (93, 23526), (97, 23550), (99, 23589),

Gene: Goby_29 Start: 23418, Stop: 23870, Start Num: 71
Candidate Starts for Goby_29:
(20, 23181), (23, 23217), (32, 23271), (49, 23346), (51, 23352), (57, 23364), (Start: 71 @23418 has 106 MA's), (75, 23490), (80, 23583), (85, 23649), (93, 23730), (97, 23754), (105, 23862),

Gene: Godpower_30 Start: 23416, Stop: 23868, Start Num: 71
Candidate Starts for Godpower_30:
(60, 23374), (Start: 71 @23416 has 106 MA's), (75, 23488), (80, 23581), (85, 23647), (87, 23668), (92, 23710), (93, 23728), (97, 23752),

Gene: GreenWeasel_31 Start: 23247, Stop: 23708, Start Num: 71
Candidate Starts for GreenWeasel_31:
(Start: 71 @23247 has 106 MA's), (75, 23319), (77, 23355), (82, 23442), (84, 23475), (85, 23478), (93, 23559), (96, 23580), (98, 23604), (99, 23622), (104, 23670),

Gene: Haizum_29 Start: 23251, Stop: 23718, Start Num: 71
Candidate Starts for Haizum_29:
(Start: 54 @23206 has 1 MA's), (56, 23212), (63, 23227), (Start: 71 @23251 has 106 MA's), (75, 23323), (79, 23371), (80, 23416), (82, 23446), (85, 23482), (93, 23566), (95, 23584), (97, 23590),

Gene: Hank144_30 Start: 23619, Stop: 24077, Start Num: 71
Candidate Starts for Hank144_30:
(7, 23163), (18, 23370), (38, 23496), (40, 23505), (65, 23595), (Start: 71 @23619 has 106 MA's), (75, 23691), (79, 23739), (84, 23847), (85, 23850), (97, 23955),

Gene: Hippo_28 Start: 22881, Stop: 23333, Start Num: 71
Candidate Starts for Hippo_28:
(70, 22878), (Start: 71 @22881 has 106 MA's), (75, 22953), (78, 22992), (85, 23112), (88, 23151), (93, 23193), (97, 23217),

Gene: Hydra_31 Start: 23124, Stop: 23576, Start Num: 71
Candidate Starts for Hydra_31:
(9, 22719), (10, 22749), (11, 22755), (13, 22827), (16, 22836), (21, 22893), (22, 22896), (26, 22953), (28, 22968), (29, 22971), (30, 22974), (33, 22983), (34, 22986), (43, 23022), (50, 23055), (64, 23097), (Start: 71 @23124 has 106 MA's), (75, 23196), (85, 23355), (93, 23436), (99, 23499),

Gene: Indigo_28 Start: 22592, Stop: 23044, Start Num: 71
Candidate Starts for Indigo_28:
(13, 22295), (16, 22304), (21, 22361), (22, 22364), (26, 22421), (28, 22436), (29, 22439), (30, 22442), (33, 22451), (34, 22454), (43, 22490), (50, 22523), (64, 22565), (Start: 71 @22592 has 106 MA's), (75, 22664), (85, 22823), (93, 22904), (99, 22967),

Gene: Issmi_30 Start: 23849, Stop: 24304, Start Num: 71
Candidate Starts for Issmi_30:
(46, 23774), (53, 23801), (Start: 71 @23849 has 106 MA's), (75, 23921), (79, 23969), (80, 24014), (82, 24044), (85, 24080), (93, 24161), (94, 24164), (99, 24224),

Gene: Itza_31 Start: 23578, Stop: 24030, Start Num: 71
Candidate Starts for Itza_31:
(Start: 71 @23578 has 106 MA's), (73, 23611), (75, 23650), (77, 23686), (79, 23698), (82, 23773), (85, 23809), (93, 23890), (97, 23914),

Gene: Izzy_30 Start: 22996, Stop: 23448, Start Num: 71
Candidate Starts for Izzy_30:
(2, 22456), (3, 22486), (6, 22537), (8, 22564), (23, 22798), (50, 22927), (64, 22969), (Start: 71 @22996 has 106 MA's), (73, 23029), (75, 23068), (85, 23227), (93, 23308), (99, 23371),

Gene: Janus_30 Start: 23552, Stop: 24010, Start Num: 71
Candidate Starts for Janus_30:
(5, 23087), (14, 23270), (19, 23327), (37, 23438), (39, 23450), (43, 23462), (Start: 54 @23507 has 1 MA's), (56, 23513), (58, 23516), (Start: 71 @23552 has 106 MA's), (75, 23624), (79, 23672), (82, 23747), (83, 23777), (85, 23783), (86, 23792), (93, 23864), (97, 23888), (99, 23927),

Gene: Jash_30 Start: 22949, Stop: 23401, Start Num: 71
Candidate Starts for Jash_30:
(2, 22409), (3, 22439), (4, 22472), (6, 22490), (8, 22517), (23, 22751), (50, 22880), (64, 22922), (Start: 71 @22949 has 106 MA's), (73, 22982), (75, 23021), (85, 23180), (93, 23261), (99, 23324),

Gene: Jevington_31 Start: 23905, Stop: 24363, Start Num: 71
Candidate Starts for Jevington_31:
(Start: 71 @23905 has 106 MA's), (75, 23977), (79, 24025), (81, 24097), (82, 24100), (85, 24136), (93, 24217), (96, 24238),

Gene: Jhitchelle_31 Start: 23804, Stop: 24283, Start Num: 67
Candidate Starts for Jhitchelle_31:
(57, 23771), (61, 23783), (67, 23804), (Start: 71 @23828 has 106 MA's), (74, 23864), (75, 23900), (78, 23939), (85, 24059), (86, 24068), (93, 24146), (96, 24167), (97, 24170),

Gene: Kaine_30 Start: 24008, Stop: 24463, Start Num: 71
Candidate Starts for Kaine_30:
(Start: 71 @24008 has 106 MA's), (72, 24026), (75, 24080), (79, 24128), (85, 24239), (93, 24326), (97, 24350),

Gene: Katalie_29 Start: 23149, Stop: 23601, Start Num: 71
Candidate Starts for Katalie_29:
(57, 23095), (Start: 71 @23149 has 106 MA's), (75, 23221), (85, 23380), (89, 23428), (90, 23434), (92, 23443), (93, 23461), (97, 23485),

Gene: Lannister_31 Start: 23641, Stop: 24093, Start Num: 71
Candidate Starts for Lannister_31:
(50, 23569), (59, 23596), (68, 23623), (Start: 71 @23641 has 106 MA's), (75, 23713), (85, 23872), (93, 23953),

Gene: Legacy_29 Start: 22567, Stop: 23019, Start Num: 71
Candidate Starts for Legacy_29:
(9, 22162), (10, 22192), (11, 22198), (13, 22270), (16, 22279), (21, 22336), (22, 22339), (26, 22396), (28, 22411), (29, 22414), (30, 22417), (33, 22426), (34, 22429), (43, 22465), (50, 22498), (64, 22540), (Start: 71 @22567 has 106 MA's), (75, 22639), (85, 22798), (93, 22879), (99, 22942),

Gene: Leviticus_29 Start: 22596, Stop: 23048, Start Num: 71
Candidate Starts for Leviticus_29:
(12, 22287), (13, 22299), (15, 22305), (16, 22308), (21, 22365), (22, 22368), (26, 22425), (28, 22440), (29, 22443), (30, 22446), (33, 22455), (34, 22458), (43, 22494), (50, 22527), (64, 22569), (Start: 71 @22596 has 106 MA's), (75, 22668), (85, 22827), (93, 22908), (99, 22971),

Gene: Lika_29 Start: 23420, Stop: 23872, Start Num: 71
Candidate Starts for Lika_29:
(60, 23378), (Start: 71 @23420 has 106 MA's), (75, 23492), (80, 23585), (85, 23651), (87, 23672), (92, 23714), (93, 23732), (97, 23756),

Gene: Loofah_30 Start: 23527, Stop: 23985, Start Num: 71
Candidate Starts for Loofah_30:
(47, 23470), (Start: 71 @23527 has 106 MA's), (75, 23599), (79, 23647), (82, 23722), (85, 23758), (93, 23839),

Gene: Lorelei_29 Start: 23389, Stop: 23841, Start Num: 71
Candidate Starts for Lorelei_29:
(58, 23338), (60, 23347), (Start: 71 @23389 has 106 MA's), (75, 23461), (85, 23620), (86, 23629), (87, 23641), (92, 23683), (93, 23701), (97, 23725),

Gene: Maneekul_28 Start: 22903, Stop: 23355, Start Num: 71
Candidate Starts for Maneekul_28:
(57, 22849), (Start: 71 @22903 has 106 MA's), (75, 22975), (78, 23014), (80, 23068), (85, 23134), (88, 23173), (93, 23215), (97, 23239), (105, 23347),

Gene: Marav_32 Start: 24235, Stop: 24693, Start Num: 71
Candidate Starts for Marav_32:
(Start: 71 @24235 has 106 MA's), (75, 24307), (79, 24355), (81, 24427), (82, 24430), (85, 24466), (93, 24547), (96, 24568),

Gene: Nabi_29 Start: 23389, Stop: 23841, Start Num: 71
Candidate Starts for Nabi_29:
(58, 23338), (60, 23347), (Start: 71 @23389 has 106 MA's), (75, 23461), (85, 23620), (86, 23629), (87, 23641), (92, 23683), (93, 23701), (97, 23725),

Gene: Nanodon_31 Start: 23239, Stop: 23691, Start Num: 71

Candidate Starts for Nanodon_31:
(43, 23128), (50, 23164), (52, 23170), (68, 23221), (Start: 71 @23239 has 106 MA's), (75, 23311), (79, 23359), (85, 23470), (93, 23551),

Gene: Nerdos_29 Start: 22590, Stop: 23042, Start Num: 71
Candidate Starts for Nerdos_29:
(13, 22293), (16, 22302), (21, 22359), (22, 22362), (26, 22419), (28, 22434), (29, 22437), (30, 22440), (33, 22449), (34, 22452), (43, 22488), (50, 22521), (64, 22563), (Start: 71 @22590 has 106 MA's), (75, 22662), (85, 22821), (93, 22902), (99, 22965),

Gene: Nishikigoi_29 Start: 23206, Stop: 23718, Start Num: 54
Candidate Starts for Nishikigoi_29:
(Start: 54 @23206 has 1 MA's), (56, 23212), (63, 23227), (Start: 71 @23251 has 106 MA's), (75, 23323), (79, 23371), (80, 23416), (82, 23446), (85, 23482), (93, 23566), (95, 23584), (97, 23590),

Gene: Oliynyk_30 Start: 22949, Stop: 23401, Start Num: 71
Candidate Starts for Oliynyk_30:
(2, 22409), (3, 22439), (6, 22490), (8, 22517), (23, 22751), (50, 22880), (64, 22922), (Start: 71 @22949 has 106 MA's), (73, 22982), (75, 23021), (85, 23180), (93, 23261), (99, 23324),

Gene: Omar_30 Start: 23492, Stop: 23956, Start Num: 71
Candidate Starts for Omar_30:
(Start: 71 @23492 has 106 MA's), (73, 23525), (75, 23564), (79, 23612), (82, 23687), (85, 23723), (93, 23807), (97, 23831), (99, 23870),

Gene: Ozzie_29 Start: 22576, Stop: 23028, Start Num: 71
Candidate Starts for Ozzie_29:
(9, 22171), (10, 22201), (11, 22207), (13, 22279), (16, 22288), (21, 22345), (22, 22348), (26, 22405), (28, 22420), (29, 22423), (30, 22426), (33, 22435), (34, 22438), (43, 22474), (50, 22507), (64, 22549), (Start: 71 @22576 has 106 MA's), (75, 22648), (85, 22807), (93, 22888), (99, 22951),

Gene: OzzyJ_29 Start: 22872, Stop: 23324, Start Num: 71
Candidate Starts for OzzyJ_29:
(70, 22869), (Start: 71 @22872 has 106 MA's), (75, 22944), (78, 22983), (85, 23103), (88, 23142), (93, 23184), (97, 23208),

Gene: Pablito_29 Start: 23122, Stop: 23580, Start Num: 71
Candidate Starts for Pablito_29:
(47, 23038), (62, 23080), (65, 23095), (Start: 71 @23122 has 106 MA's), (75, 23194), (79, 23242), (83, 23347), (85, 23353), (97, 23458),

Gene: Paedore_29 Start: 23512, Stop: 23970, Start Num: 71
Candidate Starts for Paedore_29:
(47, 23455), (Start: 71 @23512 has 106 MA's), (75, 23584), (79, 23632), (82, 23707), (85, 23743), (93, 23824),

Gene: Paolo_31 Start: 23869, Stop: 24327, Start Num: 71
Candidate Starts for Paolo_31:
(53, 23821), (Start: 71 @23869 has 106 MA's), (75, 23941), (79, 23989), (81, 24061), (85, 24100), (93, 24181), (96, 24202),

Gene: Pavo_31 Start: 24472, Stop: 24927, Start Num: 71
Candidate Starts for Pavo_31:

(58, 24424), (Start: 71 @24472 has 106 MA's), (72, 24490), (75, 24544), (79, 24592), (85, 24703), (93, 24790), (97, 24814),

Gene: Phettuccine_29 Start: 22592, Stop: 23044, Start Num: 71
Candidate Starts for Phettuccine_29:
(12, 22283), (13, 22295), (15, 22301), (16, 22304), (21, 22361), (22, 22364), (26, 22421), (28, 22436), (29, 22439), (30, 22442), (33, 22451), (34, 22454), (43, 22490), (50, 22523), (64, 22565), (Start: 71 @22592 has 106 MA's), (75, 22664), (85, 22823), (93, 22904), (99, 22967),

Gene: Provolone_31 Start: 23851, Stop: 24306, Start Num: 71
Candidate Starts for Provolone_31:
(58, 23803), (Start: 71 @23851 has 106 MA's), (72, 23869), (75, 23923), (79, 23971), (85, 24082), (93, 24169), (97, 24193),

Gene: Puginator_31 Start: 23903, Stop: 24358, Start Num: 71
Candidate Starts for Puginator_31:
(Start: 71 @23903 has 106 MA's), (75, 23975), (79, 24023), (81, 24095), (85, 24134), (93, 24215),

Gene: R4_29 Start: 23644, Stop: 24102, Start Num: 71
Candidate Starts for R4_29:
(Start: 54 @23599 has 1 MA's), (56, 23605), (Start: 71 @23644 has 106 MA's), (75, 23716), (79, 23764), (80, 23809), (82, 23839), (85, 23875), (93, 23956), (97, 23980),

Gene: Rana_29 Start: 23389, Stop: 23841, Start Num: 71
Candidate Starts for Rana_29:
(58, 23338), (60, 23347), (Start: 71 @23389 has 106 MA's), (75, 23461), (85, 23620), (86, 23629), (87, 23641), (92, 23683), (93, 23701), (97, 23725),

Gene: RedBear_30 Start: 23149, Stop: 23601, Start Num: 71
Candidate Starts for RedBear_30:
(57, 23095), (Start: 71 @23149 has 106 MA's), (75, 23221), (85, 23380), (89, 23428), (90, 23434), (92, 23443), (93, 23461), (97, 23485),

Gene: Rusticus_30 Start: 22949, Stop: 23401, Start Num: 71
Candidate Starts for Rusticus_30:
(2, 22409), (3, 22439), (6, 22490), (8, 22517), (23, 22751), (50, 22880), (64, 22922), (Start: 71 @22949 has 106 MA's), (73, 22982), (75, 23021), (85, 23180), (93, 23261), (99, 23324),

Gene: Saftant_30 Start: 24499, Stop: 24954, Start Num: 71
Candidate Starts for Saftant_30:
(Start: 71 @24499 has 106 MA's), (75, 24571), (76, 24574), (85, 24730), (93, 24817), (96, 24838), (97, 24841), (102, 24910), (105, 24946),

Gene: SarahRose_28 Start: 22881, Stop: 23333, Start Num: 71
Candidate Starts for SarahRose_28:
(70, 22878), (Start: 71 @22881 has 106 MA's), (75, 22953), (78, 22992), (85, 23112), (88, 23151), (93, 23193), (97, 23217),

Gene: Snorlax_28 Start: 22884, Stop: 23336, Start Num: 71
Candidate Starts for Snorlax_28:
(70, 22881), (Start: 71 @22884 has 106 MA's), (75, 22956), (78, 22995), (85, 23115), (88, 23154), (93, 23196), (97, 23220),

Gene: South40_29 Start: 23149, Stop: 23601, Start Num: 71
Candidate Starts for South40_29:
(57, 23095), (Start: 71 @23149 has 106 MA's), (75, 23221), (85, 23380), (89, 23428), (90, 23434), (92, 23443), (93, 23461), (97, 23485),

Gene: Speedwell_35 Start: 25751, Stop: 26206, Start Num: 71
Candidate Starts for Speedwell_35:
(17, 25496), (24, 25550), (41, 25634), (44, 25652), (51, 25682), (57, 25694), (61, 25706), (Start: 71 @25751 has 106 MA's), (72, 25769), (75, 25823), (78, 25862), (79, 25871), (85, 25982), (89, 26036), (91, 26045), (93, 26069), (97, 26093),

Gene: SqueakyClean_30 Start: 23485, Stop: 23943, Start Num: 71
Candidate Starts for SqueakyClean_30:
(Start: 54 @23440 has 1 MA's), (56, 23446), (58, 23449), (Start: 71 @23485 has 106 MA's), (75, 23557), (79, 23605), (82, 23680), (83, 23710), (85, 23716), (86, 23725), (93, 23797), (97, 23821),

Gene: Sudan_31 Start: 24295, Stop: 24750, Start Num: 71
Candidate Starts for Sudan_31:
(Start: 71 @24295 has 106 MA's), (72, 24313), (75, 24367), (79, 24415), (85, 24526), (93, 24613), (97, 24637),

Gene: Sujidade_30 Start: 23705, Stop: 24157, Start Num: 71
Candidate Starts for Sujidade_30:
(60, 23663), (Start: 71 @23705 has 106 MA's), (75, 23777), (80, 23870), (85, 23936), (87, 23957), (92, 23999), (93, 24017), (97, 24041),

Gene: SunkenRoot_32 Start: 24932, Stop: 25387, Start Num: 71
Candidate Starts for SunkenRoot_32:
(45, 24839), (50, 24860), (Start: 71 @24932 has 106 MA's), (75, 25004), (85, 25163), (93, 25250), (97, 25274), (102, 25343),

Gene: SunsetPointe_29 Start: 22583, Stop: 23035, Start Num: 71
Candidate Starts for SunsetPointe_29:
(13, 22286), (16, 22295), (21, 22352), (22, 22355), (26, 22412), (28, 22427), (29, 22430), (30, 22433), (33, 22442), (34, 22445), (43, 22481), (50, 22514), (64, 22556), (Start: 71 @22583 has 106 MA's), (75, 22655), (85, 22814), (93, 22895), (99, 22958),

Gene: Superstar_32 Start: 24457, Stop: 24912, Start Num: 71
Candidate Starts for Superstar_32:
(Start: 71 @24457 has 106 MA's), (75, 24529), (79, 24577), (80, 24622), (82, 24652), (85, 24688), (93, 24769), (97, 24793), (99, 24832),

Gene: TagePhighter_29 Start: 22884, Stop: 23336, Start Num: 71
Candidate Starts for TagePhighter_29:
(70, 22881), (Start: 71 @22884 has 106 MA's), (75, 22956), (78, 22995), (85, 23115), (88, 23154), (93, 23196), (97, 23220),

Gene: Tefunt_29 Start: 23254, Stop: 23721, Start Num: 71
Candidate Starts for Tefunt_29:
(Start: 54 @23209 has 1 MA's), (56, 23215), (63, 23230), (Start: 71 @23254 has 106 MA's), (75, 23326), (79, 23374), (80, 23419), (82, 23449), (85, 23485), (93, 23569), (95, 23587), (97, 23593),

Gene: Thestral_30 Start: 23512, Stop: 23970, Start Num: 71

Candidate Starts for Thestral_30:
(48, 23449), (Start: 54 @23461 has 1 MA's), (56, 23467), (58, 23470), (Start: 71 @23512 has 106 MA's), (75, 23584), (78, 23623), (79, 23632), (82, 23707), (84, 23740), (85, 23743), (88, 23782), (93, 23824), (96, 23845), (97, 23848), (99, 23887),

Gene: TinaBelcher_29 Start: 23459, Stop: 23917, Start Num: 71
Candidate Starts for TinaBelcher_29:
(48, 23396), (Start: 54 @23408 has 1 MA's), (56, 23414), (58, 23417), (Start: 71 @23459 has 106 MA's), (75, 23531), (78, 23570), (79, 23579), (82, 23654), (84, 23687), (85, 23690), (88, 23729), (93, 23771), (96, 23792), (97, 23795), (99, 23834),

Gene: Toma_29 Start: 23418, Stop: 23870, Start Num: 71
Candidate Starts for Toma_29:
(20, 23181), (23, 23217), (32, 23271), (49, 23346), (51, 23352), (57, 23364), (Start: 71 @23418 has 106 MA's), (75, 23490), (80, 23583), (85, 23649), (93, 23730), (97, 23754), (105, 23862),

Gene: Triste_28 Start: 22872, Stop: 23324, Start Num: 71
Candidate Starts for Triste_28:
(70, 22869), (Start: 71 @22872 has 106 MA's), (75, 22944), (78, 22983), (85, 23103), (88, 23142), (93, 23184), (97, 23208),

Gene: Triumph_31 Start: 23452, Stop: 23910, Start Num: 71
Candidate Starts for Triumph_31:
(37, 23338), (39, 23350), (43, 23362), (Start: 54 @23407 has 1 MA's), (56, 23413), (58, 23416), (Start: 71 @23452 has 106 MA's), (75, 23524), (79, 23572), (82, 23647), (85, 23683), (86, 23692), (93, 23764), (99, 23827),

Gene: TrvxScott_28 Start: 23505, Stop: 23963, Start Num: 71
Candidate Starts for TrvxScott_28:
(48, 23442), (Start: 54 @23454 has 1 MA's), (56, 23460), (58, 23463), (Start: 71 @23505 has 106 MA's), (75, 23577), (78, 23616), (79, 23625), (82, 23700), (84, 23733), (85, 23736), (88, 23775), (93, 23817), (96, 23838), (97, 23841), (99, 23880),

Gene: TuanPN_28 Start: 22901, Stop: 23353, Start Num: 71
Candidate Starts for TuanPN_28:
(57, 22847), (Start: 71 @22901 has 106 MA's), (75, 22973), (78, 23012), (80, 23066), (85, 23132), (86, 23141), (88, 23171), (93, 23213), (97, 23237),

Gene: Unstoppable_29 Start: 22587, Stop: 23039, Start Num: 71
Candidate Starts for Unstoppable_29:
(13, 22290), (16, 22299), (21, 22356), (22, 22359), (26, 22416), (28, 22431), (29, 22434), (30, 22437), (33, 22446), (34, 22449), (43, 22485), (50, 22518), (64, 22560), (Start: 71 @22587 has 106 MA's), (75, 22659), (85, 22818), (93, 22899), (99, 22962),

Gene: Urza_31 Start: 23599, Stop: 24051, Start Num: 71
Candidate Starts for Urza_31:
(Start: 71 @23599 has 106 MA's), (73, 23632), (75, 23671), (77, 23707), (79, 23719), (82, 23794), (85, 23830), (93, 23911), (97, 23935),

Gene: Vanseggelen_35 Start: 24062, Stop: 24517, Start Num: 71
Candidate Starts for Vanseggelen_35:
(Start: 71 @24062 has 106 MA's), (75, 24134), (78, 24173), (85, 24293), (93, 24380), (97, 24404), (100, 24464),

Gene: Verabelle_32 Start: 24469, Stop: 24924, Start Num: 71
Candidate Starts for Verabelle_32:
(Start: 71 @24469 has 106 MA's), (74, 24505), (75, 24541), (78, 24580), (85, 24700), (93, 24787), (96, 24808), (97, 24811), (102, 24880),

Gene: Verse_30 Start: 25129, Stop: 25584, Start Num: 71
Candidate Starts for Verse_30:
(45, 25036), (50, 25057), (Start: 71 @25129 has 106 MA's), (75, 25201), (85, 25360), (93, 25447), (97, 25471),

Gene: VieEnRose_31 Start: 23676, Stop: 24128, Start Num: 71
Candidate Starts for VieEnRose_31:
(Start: 71 @23676 has 106 MA's), (73, 23709), (75, 23748), (77, 23784), (79, 23796), (82, 23871), (85, 23907), (93, 23988), (97, 24012),

Gene: Werner_28 Start: 22882, Stop: 23334, Start Num: 71
Candidate Starts for Werner_28:
(70, 22879), (Start: 71 @22882 has 106 MA's), (75, 22954), (78, 22993), (85, 23113), (88, 23152), (93, 23194), (97, 23218),

Gene: Whatever_28 Start: 22882, Stop: 23334, Start Num: 71
Candidate Starts for Whatever_28:
(70, 22879), (Start: 71 @22882 has 106 MA's), (75, 22954), (78, 22993), (85, 23113), (88, 23152), (93, 23194), (97, 23218),

Gene: Yasdnil_28 Start: 22900, Stop: 23352, Start Num: 71
Candidate Starts for Yasdnil_28:
(57, 22846), (Start: 71 @22900 has 106 MA's), (75, 22972), (78, 23011), (80, 23065), (85, 23131), (86, 23140), (88, 23170), (93, 23212), (97, 23236),

Gene: Yosif_31 Start: 24608, Stop: 25060, Start Num: 71
Candidate Starts for Yosif_31:
(Start: 71 @24608 has 106 MA's), (75, 24680), (85, 24839), (93, 24920), (103, 25028), (105, 25052),

Gene: Zainub_31 Start: 23830, Stop: 24288, Start Num: 71
Candidate Starts for Zainub_31:
(53, 23782), (Start: 71 @23830 has 106 MA's), (75, 23902), (79, 23950), (81, 24022), (85, 24061), (93, 24142), (96, 24163),

Gene: ZamZam_33 Start: 24420, Stop: 24875, Start Num: 71
Candidate Starts for ZamZam_33:
(69, 24414), (Start: 71 @24420 has 106 MA's), (72, 24438), (75, 24492), (79, 24540), (82, 24615), (85, 24651), (89, 24705), (91, 24714), (93, 24738), (97, 24762),

Gene: Zemlya_30 Start: 23412, Stop: 23864, Start Num: 71
Candidate Starts for Zemlya_30:
(60, 23370), (Start: 71 @23412 has 106 MA's), (75, 23484), (80, 23577), (85, 23643), (86, 23652), (87, 23664), (92, 23706), (93, 23724), (97, 23748),

Gene: phiCAM_30 Start: 26264, Stop: 26719, Start Num: 71
Candidate Starts for phiCAM_30:

(45, 26174), (50, 26195), (Start: 71 @26264 has 106 MA's), (75, 26336), (78, 26375), (85, 26495), (93, 26582), (96, 26603), (97, 26606),

Gene: phiHau3_31 Start: 23214, Stop: 23675, Start Num: 71
Candidate Starts for phiHau3_31:
(Start: 71 @23214 has 106 MA's), (75, 23286), (77, 23322), (82, 23409), (84, 23442), (85, 23445), (93, 23526), (96, 23547), (99, 23589), (104, 23637),